

# Involvement of health-care professionals in an adverse event: the role of management in supporting their work force

Eva Van Gerven<sup>1\*</sup>, Deborah Seys<sup>1\*</sup>, Massimiliano Panella<sup>1,2</sup>, Walter Sermeus<sup>1</sup>, Martin Euwema<sup>3</sup>, Frank Federico<sup>4</sup>, Linda Kenney<sup>5</sup>, Kris Vanhaecht<sup>1,6</sup>

<sup>1</sup> KU Leuven – University of Leuven, Department of Public Health, Leuven, Belgium

<sup>2</sup> Amedeo Avogadro University of Eastern Piedmont, Faculty of Medicine, Italy

<sup>3</sup> KU Leuven – University of Leuven, Department of Psychology, Leuven, Belgium

<sup>4</sup> Institute for Healthcare Improvement, Cambridge, Massachusetts, United States

<sup>5</sup> Medically Induced Trauma Support Services, Inc., Chestnutt Hill, Massachusetts, United States

<sup>6</sup> University Hospitals Leuven, Department of Quality Management, Leuven, Belgium

## KEY WORDS

adverse event, health personnel, patient safety, quality, second victim

## ABSTRACT

**INTRODUCTION** After an adverse event, not only patients and family members but also health care professionals involved in the event become victims. More than 50% of all health care professionals suffer emotionally and professionally after being involved in an adverse event. Support is needed for these “second victims” to prevent a further negative impact on patient care.

**OBJECTIVES** The aim of the study was to evaluate the prevalence and content of organizational-level support systems for health care professionals involved in an adverse event.

**METHODS** A survey was sent to 109 Belgian hospitals regarding 2 aspects: first, the availability of a protocol for supporting second victims; and, second, the presence of a contact person in the organization to provide support. A total of 59 hospitals participated in the study. Hospitals were asked to submit their protocols for providing support to second victims. A content analysis based on an Institute for Healthcare Improvement’s white paper and the Scott Model was performed to evaluate the protocols.

**RESULTS** Thirty organizations had a systematic plan to support second victims. Twelve percent could not identify a contact person. The chief nursing officer was seen as one of the main contact people when something went wrong. In terms of the quality of the protocols, only a minority followed part of the international resources.

**CONCLUSIONS** A minority of hospitals are somewhat prepared to provide support for health care professionals. Management should take a leadership role in establishing support protocols for their health care professionals in the aftermath of an adverse event.

**INTRODUCTION** Medical procedures performed in hospitals carry the risk of side effects.<sup>1–4</sup> As many as 1 in 7 patients is involved in an adverse event.<sup>3,5</sup> However, when an adverse event occurs, patients and their families are not the only victims. Health care professionals involved in a serious adverse event can also suffer. These health care professionals are often referred to as “second victims”.<sup>6–10</sup>

A systematic review by Seys et al.<sup>10</sup> identified the significant impact that the second victim

phenomenon can have on a care provider’s personal and professional life. Care providers can suffer from guilt, anger, psychological distress, fear, insomnia, and long-term consequences similar to posttraumatic stress disorder, which often results in significant functional impairment.<sup>8,10,11</sup> There can be a negative impact on their patients, colleagues, supervisors, managers, and organization as well.<sup>10</sup> The prevalence of the second victim experience is estimated to be as high as 50%.<sup>11</sup> Health-care leaders need to be aware of the high

Correspondence to:  
Kris Vanhaecht, RN, MSc, PhD,  
Department of Public Health  
and Primary Care, KU Leuven,  
Kapucijnenvoer 35, blok D, bus 7001,  
B-3000 Leuven, Belgium,  
phone: +32-16-33-69-67,  
fax: +32-16-33-69-70, e-mail:  
kris.vanhaecht@med.kuleuven.be  
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\* E.V.G. and D.S. contributed equally  
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incidence and provide supportive interventions to prevent functional impairment,<sup>7,10</sup> improve quality of care, and sustain a culture of patient safety<sup>12</sup> because no support can make the situation even worse.

Research has shown that there is an increased emotional burden when second victims consider the institutional handling of the adverse event to be poor.<sup>9,13</sup> Health-care professionals, however, struggle to find support after an adverse event or do not know where to look for assistance or guidance.<sup>9,14,15</sup> Therefore, education about organizational support services is necessary.<sup>16</sup>

The type of adverse event and perceived personal responsibility may influence the emotional reactions, and, consequently, the support required.<sup>13,17</sup> Some studies have shown that there are differences in coping between professions and gender; for example, women tend to identify as second victims more often than men.<sup>7,15,18,19</sup> Other studies have observed that responses do not vary from profession to profession—for example, physicians do not react differently from nurses.<sup>20</sup> Several studies have reported support from colleagues as the most common and appreciated source.<sup>10,15,21–23</sup> Second victims find it important that someone reassures them about their professional competencies.<sup>9,10,22</sup> In a recent study by Pinto et al.,<sup>24</sup> patient safety managers considered prompt debriefing, information about processes after incidents, and guidance and mentoring by senior colleagues as very important forms of support. While these supports were rated highly in terms of importance, they were not always rated highly in terms of availability.<sup>24</sup> Health-care institutions often failed to provide support,<sup>7,25,26</sup> and given the frequency with which adverse events occur, this appears to be an important issue to address.<sup>13</sup> There are many reasons why health-care organizations do not routinely offer support—it may not be a priority, it may be offered in an informal way, or the organization may not know how to develop and implement a formal support system.<sup>27</sup>

In a recent literature review on support systems for second victims, Seys et al.<sup>10</sup> identified 2 published recommendations for second victim support at the organizational level. These are the Institute for Healthcare Improvement (IHI)'s white paper, "Respectful Management of Serious Clinical Adverse Events",<sup>26</sup> and Scott's "Three-Tiered Model of Second Victim Support".<sup>16</sup> The IHI's white paper focuses on avoiding harm after the crisis of an adverse event. It takes the 3 "victims" into account: the patient/family, the health-care professional, and the organization. The Scott three-tiered emotional support system focuses on support for health-care professionals as second victims. Both resources were developed by experts in the field and can provide a structure for systematic second victim support. They offer a framework for organizations to develop support. However, these protocols are not theoretically derived and have

not been formally evaluated. If an organization were to have some of the features in place, however, it could be more prepared for supporting second victims.

In this study, we focus on the current support protocols at an organizational level. Three research questions were posed: 1) What is the prevalence of second victim support protocols?; 2) Who is the main organizational contact person for second victims?; and 3) Are these second victim protocols following published international recommendations?

**Methods Study design and setting** In this study, a quantitative descriptive design was used. First, a survey explored the prevalence of systematic plans to support second victims and the function and role of the first contact person for second victim support. Second, the participating hospitals provided their second victim support protocols for a content analysis. All Dutch speaking hospitals in Belgium (n = 109) were invited to participate.

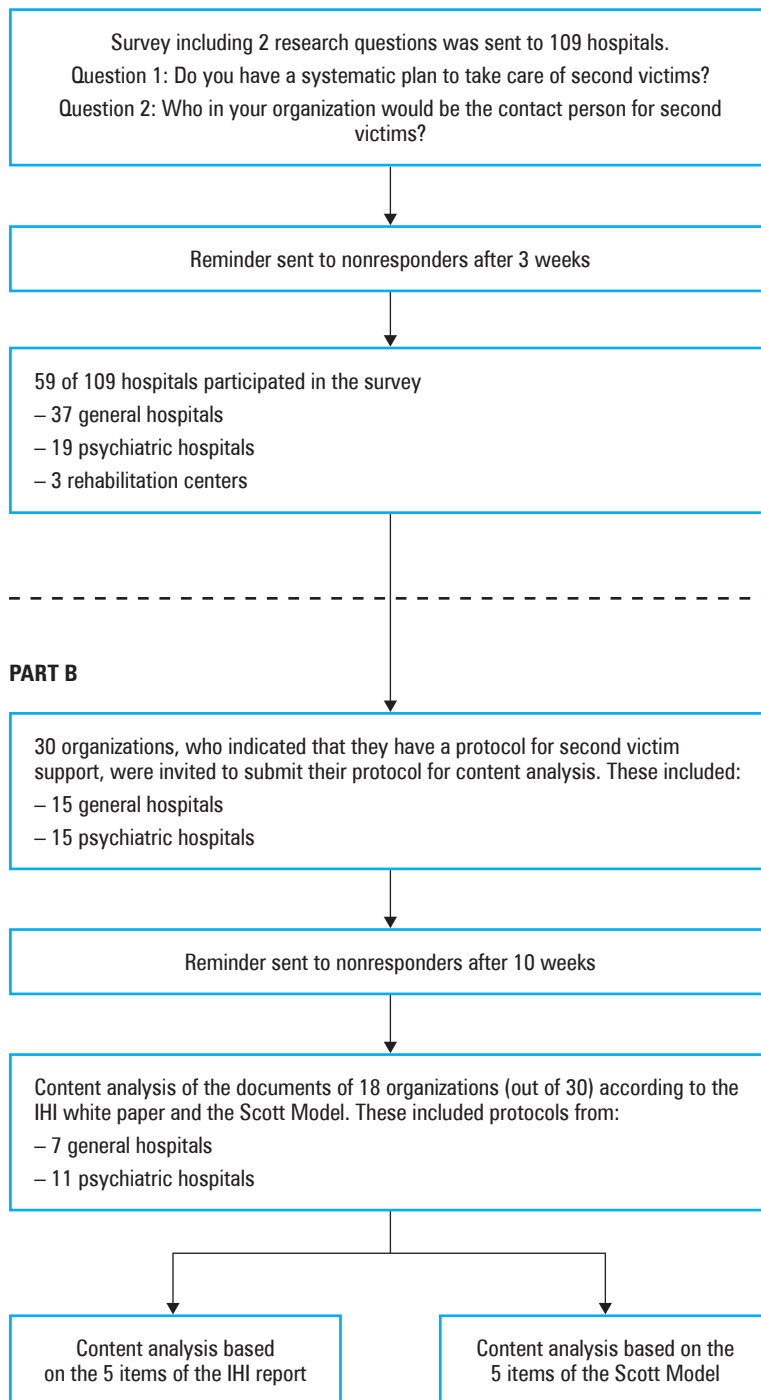
**Study protocol** A survey was sent to the chief executive officer, the chief medical officer, and the chief nursing officer of each hospital. This survey included an introduction on second victims and the following questions: 1) Do you have a systematic plan to take care of second victims?; and 2) Who in your organization is the main contact person for second victims? (FIGURE 1A). Respondents who answered "yes" to the first survey question were invited to submit their protocol for content analysis (FIGURE 1B). The protocols were analysed based on selected items from the IHI white paper,<sup>26</sup> and the Scott's interventional model of second victim support.<sup>16</sup> The IHI white paper advises organizations on how to appropriately respond when a serious clinical adverse event occurs.<sup>26</sup> It contains a "Clinical Crisis Management Plan" that addresses special support considerations for second victims:

- 1 Is there an organizational 24/7 contact person for health-care professionals involved in the event?
- 2 Have we assessed the personal safety of the involved health-care professionals?
- 3 What are we hearing from the involved health-care professionals?
- 4 Has the organization expressed empathy and been visible?
- 5 Have the involved health-care professionals been invited to participate in the root cause analysis?

The Scott Model<sup>16</sup> suggests 5 items for effective support:

- 1 Creating awareness and education about the second victim phenomenon (the first step to promoting open dialogue);
- 2 "Immediate emotional first aid" (this is immediate support from colleagues or supervisor from within the respective department/unit by asking "How are you doing?" and offering collegial support);

## PART A



**FIGURE** Overview of the study protocol and prevalence of second victim support protocols

- 3 Support from trained peer supporters and other internal resources;
- 4 Referral for counseling;
- 5 Monthly meetings for peer supporters to share best practices and review recent case interventions.

Every protocol submitted to the research team was checked for these 10 items. The protocols were independently analyzed by 2 researchers of the research team. They were thoroughly evaluated point by point for these items. If an item was present, it was marked as “1”, if not, as “0”. If no consensus was reached by the 2 researchers, a third researcher (a full professor in health services research) was consulted. Afterwards, the sum

was made of the included items to obtain an overall score. A detailed feedback report with the overall and hospital-specific results was provided to the participating hospitals.

**RESULTS** Fifty-nine of 109 Dutch-speaking hospitals (54.1%) in Belgium participated in the survey. The participants were 37 general hospitals, 19 psychiatric hospitals, and 3 rehabilitation centers (FIGURE 1A).

**Prevalence of support protocols and main contact person for second victims** In total, 30 of the 59 participating hospitals (50.8%) had a protocol for second victim support (FIGURE 1A). In particular, 40.5% of the participating general hospitals ( $n = 15$ ), 78.9% of the psychiatric hospitals ( $n = 15$ ), and none of the rehabilitation hospitals had a support protocol available.

With respect to research question 2, regarding the main organizational contact person for second victims, 44.1% of the hospitals reported a combination of people and functions, 10.2% reported the chief nursing officer, and 7 organizations (11.9%) did not know who would be the contact person within their health-care organization (TABLE 1).

**Content analysis of the submitted protocols** Thirty hospitals who answered positively to research question 1 were asked to submit their protocols for a content analysis. Eighteen protocols were submitted, yielding a response rate of 60%. Out of the 18 organizations, 7 were general hospitals (46.7%) and 11 were psychiatric hospitals (73.3%). The results of the content analysis according to the IHI recommendations<sup>26</sup> are presented first, followed by the results of the content analysis according to the Scott Model.<sup>16</sup>

**Content analysis based on the items recommended in the Institute for Healthcare Improvement’s white paper** In 83.3% of the submitted protocols ( $n = 18$ ), an organizational 24/7 contact person for second victims was included (TABLE 2). None of the hospitals included in their protocol an invitation to health-care professionals to participate in the root cause analysis. Other aspects of the protocols that were analyzed against the IHI recommendations are shown in TABLE 2.

Looking at the individual protocols, the maximum number of items included in the protocols was 3 of 5 (TABLE 3). More than eighty percent (85.7%) of the general hospitals and 72.7% of the psychiatric hospitals had only 2 or fewer items of the IHI recommendations. None of the protocols contained all 5 items recommended by the IHI.

**Content analysis based on the items of the Scott Model** Looking at the 5 criteria of the Scott Model,<sup>16</sup> only 2 general hospitals (28.6%) and 2 psychiatric hospitals (18.2%) included an item regarding specific education about the second victim phenomenon

**TABLE 1** First contact person for second victims after an adverse event

	General hospital (n = 37)	Psychiatric hospital (n = 19)	Rehabilitation center (n = 3)	Total (N = 59)
combination of people and functions	15 (40.5)	9 (47.4)	2 (66.7)	26 (44.1)
chief nursing officer	3 (8.1)	3 (15.8)	0	6 (10.2)
special team	3 (8.1)	2 (10.5)	0	5 (8.5)
psychologist	4 (10.8)	1 (5.3)	0	5 (8.5)
patient care coordinator	3 (8.1)	0	0	3 (5.1)
chief executive officer	1 (2.7)	1 (5.3)	0	2 (3.4)
ombudsman	2 (5.4)	0	0	2 (3.4)
human resource manager	0	1 (5.3)	0	1 (1.7)
involved head nurse	0	1 (5.3)	0	1 (1.7)
involved medical doctor	1 (2.7)	0	0	1 (1.7)
not known who would be main contact person	5 (13.5)	1 (5.3)	1 (33.3)	7 (11.9)

Data are presented as number (percentage).

**TABLE 2** Content analysis based on the Institute for Healthcare Improvement's white paper

	General hospitals (n = 7)	Psychiatric hospitals (n = 11)	Total (n = 18)
Is there an organizational 24/7 contact person for health-care professionals involved in the event?	6 <sup>a</sup> (85.7)	9 (81.8)	15 (83.3)
Have we assessed the personal safety of the involved health-care professionals?	1 (14.3)	2 (18.2)	3 (16.7)
What are we hearing from the involved health-care professionals?	1 (14.3)	7 (63.6)	8 (44.4)
Has the organization expressed empathy and been visible?	1 (14.3)	2 (18.2)	3 (16.7)
Have involved health-care professionals been invited to participate in the root cause analysis?	0	0	0

Data are presented as number (percentage).

**a** This number means that 6 of 7 general hospitals included this item in their protocol. This applies also to all other cells.

**TABLE 3** Overview of the cumulative number of scored items according to the Institute for Healthcare Improvement's recommendations

Number of the items scored in the protocols	General hospitals (n = 7)	Psychiatric hospitals (n = 11)	Total (n = 18)
0	1 (14.3)	1 (9.1)	2 (11.1)
1	4 (57.1)	3 (27.3)	7 (38.9)
2	1 (14.3)	4 (36.4)	5 (27.8)
3	1 (14.3)	3 (27.3)	4 (22.2)
4	0	0	0
5	0	0	0

Data are presented as number (percentage).

(TABLE 4). The first tier, immediate emotional first aid, was present in nearly 75% of the psychiatric hospitals and nearly 60% of the general hospitals. Only 1 protocol for a general hospital contained information on monthly meetings to share best practices. Other results of the protocol content analysis are shown in TABLE 4.

None of the analyzed protocols contained all 5 items of the Scott Model. The maximum score was 3 of 5 (TABLE 5). In total, 66.7% of the participating hospitals had 2 items or fewer in their protocols, which amounts to 42.9% and 81.8% for the general and psychiatric hospitals, respectively.

**DISCUSSION** Blaming health-care professionals after an adverse event does not improve patient safety or prevent similar events from happening again.<sup>28</sup> A health-care professional feeling responsible for a serious medical adverse event may enter into a vicious cycle that provokes burnout, depression, and reduced empathy. This can result in suboptimal patient care and higher odds for future errors.<sup>25</sup> To be able to cope with such an event, there is a need for formal and informal organizational support for second victims.<sup>10</sup> This study on the prevalence and content of support protocols for second victims in Belgian hospitals revealed that there is room

**TABLE 4** Content analysis based on the items of the Scott Three-Tiered Interventional Model of Second Victim Support

	General hospitals (n = 7)	Psychiatric hospitals (n = 11)	Total (N = 18)
education about second victims	2 (28.6)	2 (18.2)	4 (22.2)
three-tiered emotional support model	tier 1: Immediate emotional "first aid"	4 (57.1)	8 (72.7)
	tier 2: Support from trained peer supporters	5 (71.4)	6 (54.6)
	tier 3: Referral for counseling	4 (57.1)	4 (36.4)
monthly meetings to share best practices	1 (14.3)	0	1 (5.6)

Data are presented as number (percentage).

**TABLE 5** Overview of the cumulative number of scored items based on the Scott Model

Number of the items scored in the protocols	General hospitals (n = 7)	Psychiatric hospitals (n = 11)	Total (n = 18)
0	1 (14.3)	1 (9.1)	2 (11.1)
1	0	2 (18.2)	2 (10.5)
2	2 (25.0)	6 (54.5)	8 (42.1)
3	4 (50.0)	2 (18.2)	6 (31.6)
4	0	0	0
5	0	0	0

Data are presented as number (percentage).

for improvement as only half of the participating hospitals have a protocol available, and none of the protocols had a perfect adherence to the IHI or Scott recommendations.

**Implications** More than a half of the participating organizations indicated that a combination of people/functions or the chief nursing officer is the first contact person for second victim support. About 12% of the organizations did not know who should be the contact person. Although a combination of people/functions might seem to be a feasible strategy, in moments of crisis, coordination and leadership are vital.<sup>26</sup> A mix of people taking charge might be dangerous and could lead to confusion among the care team. The role of the chief nursing officer as contact person needs to be carefully discussed as she/he may not always be seen as a confidant for all nurses. And, what about medical doctors as second victims—will they contact the chief nursing officer? One chief medical officer mentioned in the first round of the study (FIGURE 1A) that they do not need a support plan because the organization is small and everybody knows each other. As a structured approach for support has been suggested in the literature,<sup>10,16,26</sup> we think this can be an unsafe attitude.

The content analysis of the submitted protocols gives an idea of the quality. None of the analyzed protocols included all items suggested in the IHI's white paper or in the Scott Model. The maximum number of items included in the analyzed protocols is 3 of 5 items for both recommendations. Less than one-quarter of the hospitals in our study included in their protocol the education of health-care professionals about the impact of adverse events. Somewhat more than 44% of

the hospitals included 1 or more tiers for emotional support in their protocol. About 67% of the hospitals in our study provided support from colleagues (tier 1), while support from trained peers was offered in 62% of the hospitals (tier 2). Tier 3, referral to professional help from psychotherapists, social workers, chaplains,<sup>29</sup> and others was less common. In the study by Scott et al.<sup>16</sup> in 2010, approximately 60% of the caregivers found that tier 1, informal support from colleagues, is sufficient to meet their needs. Approximately 30% of the second victims required tier 2 (support from trained peers), and approximately 10% of the second victims needed additional professional counseling and guidance.<sup>20</sup> Several studies have agreed that support of colleagues is the most appreciated.<sup>10,15,21-23</sup> Since this kind of support can be as easy as a pat on the back or just letting one know that a colleague is there for them, the fact that this is included in the protocols only in 67% is surprising. However, because this is informal support, it might have not been included in the protocols.

In only 1 hospital, the support team meets monthly to share best practice and experience. Scott et al.<sup>9</sup> suggested an arrangement of monthly meetings among peer supporters to share best practices and review recent case interventions. Despite intensive training possibilities, the members of the support teams themselves may need support, too, as they will be confronted with questions and situations for which they may not be fully prepared.<sup>22,27</sup>

Attitudes and perspectives about appropriate ways to cope with an adverse event or regarding the use of any support service provided are likely to be, in part, a product of the organizational culture.<sup>13</sup> Having a protocol in place for support



does not mean that staff actually receives proper support. A just culture is necessary where it is recognized that even with the best preventive measures, health-care professionals are always at risk of being involved in an adverse event.<sup>30</sup> Unfortunately, in many cases, a culture of blame persists.<sup>12</sup> Quality improvement activities can decrease the risk of burnout,<sup>31</sup> but awareness of adverse events as triggers for sleeplessness, substance use, stress, or even suicidal ideation will be crucial.<sup>10,32,33</sup> Organizational culture is important to consider when to develop and implement second victim awareness and support.<sup>20</sup>

Support for health-care professionals after an adverse event is of great importance, not only because it is “the right thing to do,” but also for its impact on patient safety and the organization itself. The second victim phenomenon is devastating beyond an individual level. It threatens future professional competence, patient care, and safety.<sup>8,9,15</sup> Distressed health-care professionals potentially make more errors and display less empathy.<sup>15,17</sup> They tend to change practice or specialty, decrease work hours, and possibly leave patient care entirely. This can have significant implications for health-care organizations. Therefore, wellness of the health-care provider can be seen as the “missing quality indicator”.<sup>15,34</sup>

Stigma around serious clinical adverse events, psychological support for health-care professionals, and a lack of knowledge of second victims’ symptoms and effects may lead to an underestimation of the frequency of the second victim experience, and thus an underestimation of their need for support.<sup>7,10</sup>

**Limitations** The findings of this study need to be interpreted in the light of certain limitations. We have a response rate of more than a half of the eligible hospitals, but we have to be careful with extrapolating the results. Fifty organizations did not participate in our study, which is a methodological limitation. It is possible that the organizations that did not participate in the study all have a protocol available with high compliance to the 2 standards, although we think this is doubtful. Because the organizations were asked to submit their protocols to our university for external content analysis, not all hospitals may have felt comfortable with this approach. Evaluation of paper protocols may not provide all the information regarding the approach hospitals are taking to support second victims. It may be possible that health-care organizations provide more informal support and do not include all this information in a documented protocol. On the other hand, it is also possible that having a protocol in place does not ensure that staff actually receives good support after being involved in an adverse event. However, it shows that the hospital is aware of the importance of support for second victims, which, in our opinion, is the first step in the right direction.

It is also important to mention that the recommendations used for comparison are written for United States organizations in English, and are not yet translated for use in Belgium. These methodological limitations can lead to an over- or underestimation of the quality of the protocols reviewed in this study. Therefore, additional qualitative interviews with hospital managers and human resources departments from both participating and nonparticipating hospitals are suggested to assess the overall approach.

**Further research** International knowledge sharing on second victim support will be necessary. The websites of IHI ([www.IHI.org](http://www.IHI.org)) and of the Medically Induced Trauma Support Services (MITSS; [www.mitss.org](http://www.mitss.org)) offer an overview of champion organizations such as the “forYou” program at the University of Missouri<sup>22</sup> and the Second Victims Work Group at the Johns Hopkins Hospital.<sup>8,27</sup> The MITSS has recently developed a toolkit to help organizations establish programs for second victim support.<sup>27</sup> This toolkit is free at <http://www.mitsstools.org/clinician-support-tool-kit-for-health-care.html>. Additional research on the effectiveness of these support systems will be necessary. More research is needed to determine possible differences in approaches and the level or nature of support. It will be necessary to fully understand the second victim phenomenon and how organizations support and take care of their second victims. Qualitative studies involving focus groups or in-depth interviews with managers and second victims are suggested.

To conclude, a limited number of the organizations participating in our study have a protocol in place to support second victims. More than half of the organizations in the study suggested that a combination of people/functions or the chief nursing officer are probably the most appropriate contact people for second victim support. Both options have their limitations. The content analysis of the submitted protocols shows that there is room for improvement as none of the protocols contained all items of the international recommendations on which we focused.

Organizations have to be fully prepared to render immediate support to second victims. Negative reactions should be prevented or limited by rendering support to prevent other incidents, sickness, absence, burnout, or even quitting the profession. Health-care organizations should develop structured programs with clear leadership that start immediately following an adverse event as it is not advisable to wait until the clinician reaches out. Support systems for second victims are an important pillar in the search for optimal patient safety.

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